

SECTION 12309 - LABORATORY SERVICE FIXTURES

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes, but is not limited to, all materials, labor and equipment, complete with all anchors and related accessories, necessary to furnish, deliver and install:
 - 1. Domestic Hot And Cold Water Fixtures
 - 2. Laboratory Gas Fixtures
 - 3. Electrical Service Fixtures
 - 4. Data Service Fixtures
 - 5. Fume Hood Service Fixtures
 - 6. Emergency Shower/Eye Wash
- B. Although such work is not specifically shown or specified, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
- C. For general requirements applicable to this and all other Casework Specification Sections including, but not limited to definitions, system description, submittals, quality assurance, mock-up, testing, field measurements, pre-installation conference, delivery, storage and handling, project conditions, and sequencing requirements, refer to Specification Section 12340 - Laboratory Casework - General Requirements.
- D. Products Specified But Not Installed Under This Section:
 - 1. Section 12345 - Metal Laboratory Casework and Fume Hoods: Factory installation of laboratory service fixtures in fume hoods
- E. Related Sections:
 - 1. Section 12340 - Laboratory Casework - General Requirements
 - 2. Section 12345 - Metal Laboratory Casework and Fume Hoods: Fixture mounting holes
 - 3. Section 12346 - Wood Laboratory Casework: Fixture mounting holes
 - 4. Division 15 - Mechanical: Connection of laboratory service fixtures to service lines
 - 5. Division 16 - Electrical: Connection of laboratory service fixtures to service lines

1.02 CERTIFICATIONS

- A. Provide certification for each item, that the products provided have been evaluated by the National Recognized Testing Laboratory (NRTL) to the applicable ANSI/UL and CSA Standards, for use in the US.

PART 2 - PRODUCTS

2.01 GENERAL

- A. For general requirements applicable to this and all other Casework Specification Sections including, but not limited to, manufacturers, materials, components, and finish and performance requirements, refer to Specification Section 12340 - Laboratory Casework - General Requirements

2.02 MANUFACTURED UNITS

- A. Plumbing Fixtures:
1. Heavy duty special design manufactured for laboratory use
 2. Provide with mounting shank of length and type suitable for substrate condition, lock nut, and other mounting devices necessary for attachment to countertops, backsplashes, and panels
 3. Factory assemble fixtures with valves and mounting shanks
 4. Individually factory pressure-tested
 5. Fixture shipment: Provide fixtures loose, except for factory-mounted fixtures in fume hoods specified in Section 12345
 6. Fabricate to accommodate index coding
 7. Provide fixtures with colored service identification:
 - a. Fitting handles: Color coded plastic hooded handles with index buttons mounted in handle.
 - b. Identify services with lettered and color-coded buttons:

Domestic hot water:	HW	Red
Domestic cold water:	CW	Green
Laboratory compressed air:	A	Orange
Laboratory (natural) gas:	G	Blue
Laboratory vacuum:	V	Yellow
Nitrogen	N	Brown
Ultra-pure water:	DI	White

2.03 DOMESTIC HOT AND COLD WATER FIXTURES

- A. Acceptable Manufacturers:
1. Water Saver Faucet Company, Chicago, IL
 - a. H&CW Deck Mounted Hot and Cold Water Faucet with 8" swing type gooseneck with vacuum breaker - Model No. L414-8VB
 - b. H&CW Deck Mounted Hot and Cold Water Faucet with 8" swing type gooseneck with vacuum breaker and wrist blade handles for ADA - Model No. L414-8VB-BH
 - c. CW Deck Mounted Cold Water Faucet with 6" swing type gooseneck with vacuum breaker for cupsinks - Model No. L414-6VB
 - d. CW Deck Mounted Cold Water Faucet with 6" swing type gooseneck with vacuum breaker and wrist blade handles for ADA cupsinks - Model No. L414-6VB-BH
 - e. H&CW Wall Mounted Hot and Cold Water Fitting with vacuum breaker and Quick-Disconnect, ADAAG compliant, for ADA cart. See Lab Drawings.
 - 1) Flange body for fixed casework panel:

B-QC6-F-6PM-K3	(CW)
B-QC6-F-6PM-K6	(HW)
 - 2) Quick connect stem:

B-QC6-D-6PM-K3 (CW)

B-QC6-D-6PM-K6 (HW)

2. Chicago Faucets, Des Plaines, IL
3. Kewaunee Scientific Corporation, Statesville, NC

B. Description:

1. Design for maximum operating water pressure of 550 kPa (80 psi).
2. Made of chrome plated brass with an 8" spread swing gooseneck.
3. Removable straight serrated hose connector.
4. Provide with integral vacuum breaker on goosenecks to prevent backflow. Vacuum breakers shall be designed specifically for laboratory applications. As such, they shall be design to seal properly and prevent spillage under extreme low flow conditions.
5. Valves shall be disc type with renewable internal assemblies.
6. Provide forged brass wrist-blade handles with colored plastic index disk at ADA sinks.
7. Forged brass four-arm handle for ease of gripping and turning. Furnished with full view color-coded index disc secured with cement.
8. Individually factory test prior to shipment.
9. All faucets shall meet the requirements of ANSI/ASME A112.18.1M.
10. Vacuum breakers shall be certified by the American Society of Sanitary Engineers (ASSE) under ASSE Standard No. 1001.

2.04 LABORATORY GAS FIXTURES

A. Acceptable Manufacturers:

1. Water Saver Faucet Company, Chicago, IL
 - a. Deck-Mounted Fixtures with removable serrated hose ends
 - Single Outlet Turret Model No. L4200FH-131WS
 - Two-way 180° Outlet Turret Model No. L4200FH-132SWS
 - b. Wall Mounted Fixtures and Quick-Disconnect, ADAAG compliant, for ADA cart. See Lab Drawings.
2. Chicago Faucets, Des Plaines, IL
3. Kewaunee Scientific Corporation, Statesville, NC

B. Description:

1. Laboratory Ball Valves:
 - a. On/off control of gas at pressures up to 75 psi.
 - b. Valve Body: Forged brass with polished chrome plated finish.
 - c. Valve Unit: Quarter-turn open/close with chrome plated brass ball and molded TFE seals.
 - d. Handle: Forged Brass lever handle with color-coded index disc to indicate service.
2. Hose end:
 - a. Removable, serrated, non-slip
 - b. Straight, unless otherwise indicated
 - c. Quick disconnect at wall mounted laboratory fixtures
3. Provide with cylindrical turret with single or double outlets, as shown on drawings.

4. Provide ADA compliant lever handle at ADA workstations.
5. Fixture shall be fully assembled and factory tested prior to shipment.

2.05 ELECTRICAL SERVICE FIXTURES

- A. All electrical outlets to be provided under Division 16 – Electrical, unless noted otherwise.
- B. Single Faced Pedestals (E4):
 1. Provide deck mounted, single faced, single wide, stainless steel pedestals.
 2. Provide pedestals complete with enclosure boxes, receptacle, and stainless steel cover plates.
 3. Provide Ground Fault Interrupter Receptacles where required.

2.06 DATA SERVICE FIXTURES

- A. All data outlets to be provided under Division 27 – Telecom/Cabling Systems, unless noted otherwise.
- B. Double Faced Pedestals (D2, D4):
 1. Provide deck mounted, double faced, single wide, stainless steel pedestals.
 2. Provide data pedestals complete with enclosure boxes and stainless steel cover plates.

2.07 FUME HOOD SERVICE FIXTURES

- A. Acceptable Manufacturers:
 1. Kewaunee Scientific Corporation, Statesville, NC
(Model numbers indicated below are by Kewaunee unless noted otherwise)
 - a. Remote Control Cold Water Fixture with vacuum breaker
Model No. W-0740-L/R-CW-VB-I-X
 - b. Remote Control Laboratory Gas Fixtures
Model No. W-0739-L/R-GAS-I
 - c. Remote Control ADA Compliant Laboratory Gas and Water Fixtures
Model No. L4285B by Water Saver Faucet Co.
 - d. Electrical Fixtures for mounting in Fume Hoods
Toggle Switch for Fume Hoods Model No. 0655-1V-I
 2. Chicago Faucets, Des Plaines, IL
 3. Water Saver Faucet Company, Chicago, IL
- B. Remote Control Cold Water Fixtures:
 1. Design for maximum operating water pressure of 147 psi
 2. Front loaded fittings including brass valve with replaceable seat, nylon color coded panel flange with angle serrated hose connector
 3. Cold Water Gooseneck with Vacuum Breaker
 4. Fume Hoods shall be pre-piped as specified in Section 12345
- C. Remote Control Laboratory Gas Fixtures:

1. On/off control of gas at pressures up to 100 psi
2. Front loaded fittings including brass valve with replaceable seat, nylon color coded panel flange with angle serrated hose connector
3. Provide fine control needle valves for nitrogen, helium and other special gas services at pressures over 147 psi
4. Fume Hoods shall be pre-piped as specified in Section 12345

D. Remote Control ADAAG Compliant Laboratory Gas and Water Fixtures:

1. Remote control laboratory ball valve with guide plate, rod and handle for water and gas services
2. Valve shall be factory assembled and tested at 125 psi. Maximum working pressure shall be 100 psi
3. Valve shall be suitable for water and gas services
4. Fume Hoods shall be pre-piped as specified in Section 12345
5. Provide ADAAG compliant lever handle

E. Electrical Fixtures:

1. Fume Hoods shall be pre-wired as specified in Section 12345

2.08 BARRIER-FREE RECESSED SAFETY STATION WITH DRAIN PAN

A. Acceptable Manufacturers:

1. Water Saver Faucet Company, Chicago, IL (Barrier Free Recessed Safety Station with Drain Pan - Model No. SSBF2150)
2. Chicago Faucets, Des Plaines, IL
3. Guardian Equipment, Chicago, IL

B. Description:

1. Shower Head: 10 inches. Spray pattern shall be 20 inches diameter at 60 inches above floor. Furnished with stainless steel vertical supply pipe and ceiling escutcheon for mounting shower head at desired height below finished ceiling.
2. Valve: 1 inch IPS stainless steel stay-open ball valve with stainless steel "panic bar". Pulling bar down shall activate shower; shower shall remain in operation until bar is returned to original closed position. Furnished with stainless steel access panel and 1" IPS unions for valve.
3. Cover /Drain Pan: Eye/face wash section of unit shall have stainless steel cover. Opening cover shall pull outlet head assemble down from vertical to horizontal position and shall activate water flow. Horizontal grab bar shall be easily grasped and pulled in an emergency. While unit is in operation, waste water shall be collected by drain pan and returned into unit for drainage. Unit shall remain in operation until cover is returned to closed position.
4. Eye/Face Spray Head Assembly: Two spray heads mounted on supply arms. Each spray head shall have internal flow control and filter to remove impurities from water.
5. Eye/Face Wash Valve: ½" IPS brass stay-open ball valve.

6. Mounting: Entire unit shall be enclosed in an 18 gauge stainless steel cabinet with flanged rim for recessed mounting in wall. Combination cover and drain pan shall be 18 gauge stainless steel. Unit shall fit in standard 3 5/8" deep wall
7. Pipe and Fittings: All pipe and fittings shall be stainless steel or brass.
8. Individually factory test prior to shipment.
9. ANSI-compliant identification sign.
10. Comply with the requirements of ANSI Z358.1 for eyewash equipment

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. For General Installation Requirements, applicable to this and all other Casework Specification Sections including, but not limited to, examination, installation, adjusting, cleaning, and protection general requirements, refer to Specification Section 12340 - Laboratory Casework - General Requirements.

3.02 ADDITIONAL INSTALLATION REQUIREMENTS

- A. Install in accordance with specifications
- B. Install items plumb, level and square
- C. Maintain dimensional tolerances and alignment with surrounding construction and adjacent surfaces
- D. Interface With Other Work. Install items in a sequence to not delay:
 1. Adjoining construction
 2. Connections of casework and hoods to mechanical and electrical services

3.03 SCHEDULES

- A. Quantities are indicated on Drawings, unless otherwise indicated.

END OF SECTION 12309